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Abstract

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The picture today is different. In Edinburgh more than a thousand adults are admitted to hospital each year after such an act. The great majority of those who poison themselves survive, and this fact goes far towards explaining why the practice has spread.

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The growth of pharmaceutical products has brought about the change. The growth of self poisoning has come about in the train of a rapid rise in number of highly dangerous preparations employed therapeutically, together with a great contemporaneous increase in prescribing. The way has thus been opened for self - poisoning to flourish, since few who practise it have their minds set on dying.

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SELF POISONING — A STUDY IN EDINBURGH

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In Edinburgh the Royal Infirmary has had a ward for patients who require overlapping medical and psychiatric care, and it serves as a treatment centre of cases of poisoning occurring in the City of Edinburgh and the surrounding region. This study embraces the full range of survivors of deliberate self-poisoning acts occurring in Edinburgh between June 1962 and June 1963. Social and clinical data were obtained from every patient while still in hospital, excepting the handful who died without regaining consciousness. If the patient and family are seen later at out-patient clinics often an identical, idealised and false picture is presented.

The injunction applies to 151 men and 314 women who were admitted to the ward. In these 465 people, 522 admissions were made, for some repeated the act.

Index of Endangering Life

Self-poisoning refers to the intention of taking too much of a poisonous substance, believing that it will be noxious. There are three essential components of the act; that it must be deliberate not accidental; that the quantity must be known to be excessive; and that it is realised that this may be harmful. Poisoned patients not satisfying these criteria were excluded. Assessment of the degree of danger to life that the patient exposed himself to is difficult. The quantity of poison, and the extent to which the action is concealed or disclosed, are of equal importance. If the patient took a fatal quantity of poison and took steps to avoid discovery, death is certain if not discovered. Smaller doses and/or taking steps to ensure quick discovery, put patients into a "death unlikely" or "certain to survive" category.

Table 1. — Index of Endangering Life

Predictable Outcome of Act	Males (170)	Females (352)
Death	19%	19%
Death probable	11%	11%
Death unlikely	28%	21%
Certain to survive	40%	49%
Unclassified	2%	0

Social Findings

Individual self-poisoning rates for the 23 Wards of Edinburgh were calculated. Wards with the highest rates lie in the central areas, where overcrowding and slum conditions are most frequent. The lowest rates were found in the solid, respectable, predominantly middle class areas on the west of the City. Post-war housing estates also show high rates, such as Craigmillar, where those living in the worst of the central area were rehoused. However, Sighthill, a new housing estate, with a prosperous and secure working population, has a low rating. Significant associations were found with overcrowding, and those living in a non-family setting i.e. lodging houses and hostels (and including criminals). No significant correlation was found with single person households, as in suicide.

Table 2. — Mother or Father Absent During Childhood (For at Least Six Months, Due to Death, Hospitalization, or Separation Arising from Marital Disharmony). Based on Data for 441 Patients.

	Patient's Age when Separation Began		
	Under 5	Under 10	Under 15
Mother absent	13%	21%	28%
Father absent	25%	36%	43%
Both parents absent	10%	17%	21%

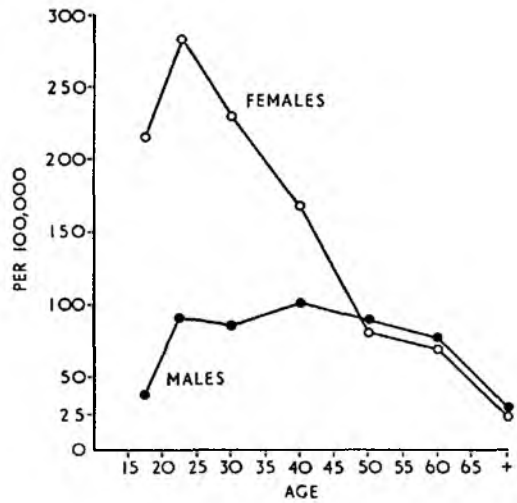
Table 3. — Major Precipitating Factors. Percentages of Approximately 165 Males and 350 Females (Except for Marital Disharmony and Forced Separation, which are Based on 68 Married Males and 147 Married Females)

	Males	Females
Marital disharmony	68%	60%
Drinking a problem	51%	16%
Financial difficulties	44%	31%
Unemployment	34%	18%
Kin disharmony	28%	30%
Isolation	15%	
Crime	15%	
Housing difficulties	14%	19%
Difficulties at work	14%	
Love affairs going badly		16%
Forced separation	12%	

More than one factor might be present. Factors occurring in less than 10% of cases have been omitted. They included bereavement, gambling, and sexual problems.

Age

There is a difference between the sexes. Male rates for 20 - 64 years remain fairly constant. The female rate is much higher but shows a gradual fall with years until at age 45 there is little difference between the sexes. In female teenagers aged 15 - 19, 1 in every 500 Edinburgh girls poisoned herself. Newly married women, even though in a normal home-setting, are emotionally isolated, having changed from an active social life to one of domesticity; thus they may have no-one to share feelings with or give expression to. Unhappiness may therefore explode at a moment of crisis.



Self-poisoning: 1 year admission rates per 100,000 by age and sex. (From Kessel, B.M.J. 1965, 1259)

Marital Status

In those patients who had been married, 30% of the male cases, and 26% of the female had been either separated or divorced, often in the month prior to the self-poisoning act. (Nearly half had ended 5 years before the act.) But of those that remained marital relations were nearly always bad. Unfaithfulness, jealousy, grumbling, and above all, excessive drinking, were often encountered.

Nearly every patient had a bad relationship with a key individual; spouse, relative, or friend. Absence and disharmony also occurred with high incidence in the parents of patients.

Table 4. — Marital Relations (Percentages of Married Patients)

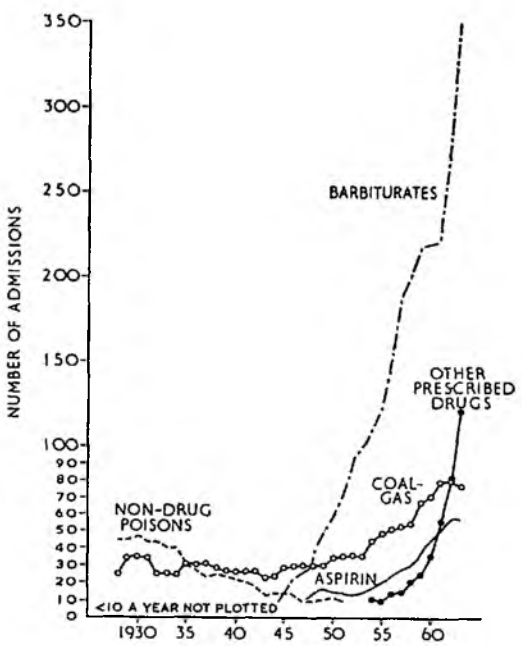
	Males	Females
Frequent hostility disclosed	85%	68%
Clinical assessment:		
Poor	14%	14%
Bad	43%	29%
	57%	43%
Desire to end marriage:		
By patient only	8%	11%
By spouse only	17%	8%
By both	2%	4%

Means Adopted

Just over half the acts involved barbiturates. Most drugs were obtained legally or on prescription (but always written for the patient). Drugs used were often for illness's which occurred some time before.

Thirty-five years ago non-drug poisons (lysol, etc.) together with coal gas, accounted for nearly all the cases.

Barbiturates have thus become the new means of self-poisoning, and doctors seem only too ready to prescribe them. Drugs for psychiatric disorders are also on the increase (chlorpromazine).



Yearly admissions of poison patients 1928-1963 showing method used.
(From Kessel, B.M.J. 1965, 1259)

People of different ages employ differing methods. The percentage using barbiturates and coal gas rises with age. Those using salicylates falls. Insomnia occurs as age increases and can perhaps explain this rise. Young people have easier access to salicylates than to sleeping tablets. Older people may also have carried the tradition of coal gas poisoning with them from their earlier years.

Table 5. — Method of Self-poisoning in 522 Cases.

Barbiturate	284	(55%)
Aspirin	64	(12%)
Other drug	119	(23%)
Non-drug poison	6	(1%)
Coal-gas	49	(9%)

Diagnosis

Conventional psychiatric nomenclature is ill suited to describing self-poisoning patients. The decision is often based between depressive illness or intolerable living conditions. Men suffered more from personality abnormality; women from depressive illness.

Determination of psychiatric illness in the Edinburgh department depends on clinical history. If this is negative then there are no grounds for concluding the patient is psychiatrically ill. Distress is not the exclusive province of the mentally ill. However, those with no psychiatric illness tended to be younger, and also to indulge in less life-endangering acts (use of salicylates).

The combination of depression and psychopathy often occurred, personality disorder occurring in 41% of men and 27% of women.

Associated factors included alcoholism, drug addiction, epilepsy and subnormality. The dominant factor in men was alcoholism (37% were alcoholics). 56% of men and 23% of women had been drinking before the act took place. Of the 6 patients (4 : 2) who killed themselves within 1 year of discharge, 5 were alcoholics.

Distress

Moving now to those aspects of the personal situation of the people involved — is there a unifying basis to self-poisoning acts?

Distress drives people to self-poisoning acts. It may arise from within (the person with depressive illness), or it may be generated from outside, from the intolerable, yet insoluble social situation in which he is caught; that is

why so many patients cannot be classed as ill. Nobody takes poison, a little or a lot, to hurt or to die, unless at that moment he is distressed beyond what he can bear, and so desperate he cannot see a more rational solution. The suicide says, in effect, "There is no way out"; the self-poisoner, "I cannot see a way out". They find themselves trapped; they are desperate; and their distress drives them to an action that is both stupid, and the same time, a blow for liberation.

Case. A married woman of 27 whose husband was threatening to leave her, took 50 aspirins. "I didn't think they'd kill me. I thought they might. I hoped they wouldn't. I thought of my father and mother. I couldn't let them be hurt. I hoped really it would bring John back. If it didn't I might as well die." — Senseless and purposeful — it is a paradox we have to accept.

Motive

The sorts of predicament which cause people such distress are legion. Some thought that their feelings about the world were faulty (not always with self-blame); others explicitly incriminated bad relationships with someone else, generally the spouse. Not many mentioned material circumstances — debt or unemployment for instance, and very few held them to be the only factors at work. Physical ill health was rarely mentioned, though such a handicap probably contributed to the patient's state of mind. The immediate spark to many acts was a quarrel; and where the relationship is bad taking poison is often the impetuous result.

Impulsiveness

Two-thrds of all acts were impulsive. Five minutes, sometimes one minute, before the act took place, the idea of taking poison was not in the person's mind. He may, however, have thought about doing it in the past. Hours of rumination may have preceded the determination which was formed in a single moment. But in the event, a feeling of despair arose, often suddenly from a trivial cause, and was as suddenly acted upon. "Why did you do it?" the patients are asked. "I don't know. It just came over me", they reply. And they do not know. It is not that they have forgotten. They are not prevaricating — they never worked it out. It just came over them.

Men and women acted impulsively in equal proportions. Impulsive acts were *not* related to alcoholism, being no more common among the inebriated than among the others.

Impulsiveness was more common than premeditation, at all ages, though its incidence was rather less in women of 55 and over, due to an increase in depressive illness in this group. Patients with former psychiatric illnesses premeditated self-poisoning more often than did others, but even among these impulsiveness characterised over half the acts. Impulsive acts were less life-endangering than premeditated ones. Still 16% had a predictable outcome of death.

People who act impulsively have a chance to seek aid immediately afterwards. Premeditation, on the other hand, carries with it the opportunity to warn someone in advance. A young woman who took aspirins told her husband that she was thinking of taking her life. He did not take her seriously. Unfortunately, that is commonly the case.

Such warnings are part of the "appeal" quality of self-poisoning acts. Stengel (1958) urged that the appeal is usually unconscious. Among our patients, it was common to find it was quite conscious.

Case

A rigid, respectable, intolerant, middle-aged man, whose wife had left him suddenly, a month earlier, took about 25 aspirin tablets. "To tell you the truth, it was exhibitionism, really. I thought it might arouse her sympathy. I'd tried everything — letters, flowers, nylons, the minister, a lawyer — so I thought I'd try this. To be very truthful, I made enquiries as to the fatal dose. Of course I didn't do so directly. I went to the chemist and said "We've been arguing in the canteen about the number of aspirin you'd need." He said that about 40 would probably be fatal. So I took between 25 and 30." I asked him why he had not taken 40, and the answer was immediate: "Self-preservation. Lifes too sweet."

Case

Such patients are often condemned as frankly manipulative, and therefore somehow undeserving. When the purpose is so apparent, the distress and despair are less obvious. Admission to the ward, having poisoned oneself, can be, for instance, a powerful weapon in bringing back errant boyfriends. The girls who resort to it are, all the same, very much distressed; in their despair they do something stupid and senseless, and it works. Should we judge them harshly on that score?

Statement of Intention

Once they had recovered, 60% of the patients claimed that they were intending to die, while a quarter said categorically that this was not their purpose. The rest either did not know, or were evasive. Little credence can be placed on these statements. The intention is not usually worked out at all, let alone with such precision in terms of living and dying. Between those who said that they had intended to die, and those who had said that they had not, there was some, but little, difference in the degree to which they had endangered their lives. We find it more profitable to emphasise with the patient any constructive purpose there may have been in his act, than to stress the destructive element, which in any case is evanescent. Very few patients, and they were almost all severely depressed, said after physical recovery, that they still wished to take their lives.

Prevention

Since the outcome of self-poisoning acts is often beneficial, ought we to try to prevent them? Such an argument cannot be countered. It is not the result of the self-poisoning which produces the benefit, but the disclosure and solution of the underlying problem, and there are certainly better ways to bring these problems to light. Self-poisoning is a dangerous practice.

The lessening of the disturbed backgrounds from which patients come; the parental separation; the bad social circumstances, require political action rather than medical. All we may do is to add the knowledge that these conditions generate self-poisoning. But as the majority of self-poisoning acts arise from strains within the family setting, then the person to shoulder the responsibility is the general practitioner in his chosen role of family doctor.

Prescribing

Certain preventive measures are suggested by our study of the means adopted, bearing in mind that two-thirds of the acts were impulsive. Consider first the sale of salicylates. No-one would wish to see aspirin available only on prescription, but it is not necessary for it to be sold in lethal quantities without any check on the reason why it is being purchased. However, it is only a small part of the problem. The majority of poisons taken were obtained on prescription. That this arose soon after the beginning of the National Health Service may be no more than coincidence. But certainly, in the matter of methods, the physician leads, the layman follows.

To anyone who works in a centre for the treatment of poisoning, the conclusion is inescapable that dangerous substances are prescribed unnecessarily often and in excessive quantities. Several of our patients recounted their surprise that sleeping tablets were prescribed so readily. The growing frequency of self-poisoning makes it imperative to use the utmost circumspection in the prescribing of barbiturates. The average number of tablets on a single prescription in 1959 (Brooke and Glett, 1964), was :— Phenobarbitone—60, Soneryl—44, Amytal—49, Nembutal—40, Drinamyl—48. It is difficult to credence that all this barbiturate was really necessary.

Considerable quantities of drugs for the mental state are prescribed to just those patients who are liable to indulge in overdosage. After an episode of illness, supplies of every kind of tablet commonly remain in the house; in a moment of crisis they are there, an irresistible temptation. The greatest single public health measure to reduce the extent of self-poisoning in Britain would be the removal of these stocks of drugs.

But cut off from a supply of drugs, would the patients resort to more dangerous means? — slashing wrists — jumping from heights? I do not think this likely. Few self-poisoning patients want to damage themselves irreparably. They would probably seek a more healthy way of obtaining the help they desperately claim.

Alcoholism

One of the commonest clinical characteristics, certainly of male patients is alcoholism. Alcoholics take poison because they are depressed, and cut off from care and support. If proper treatment for alcoholism were provided, fewer might be driven to self-poisoning, and indeed to suicide.

Management

Prevention is best. But cases will continue to arrive in large numbers at our hospitals, and we have to deal with them. The necessary medical care and prompt and thorough psychiatric assessment required, must be carried out. At present it still goes by default in many hospitals. The management of the patient by administering a massive dose of psychiatric treatment quickly, should form an integral part of every unit for the treatment of poisoning.

TABLE 6.
Index of Endangering Life, and Disposal

	Predictable Outcome			
	Death	Death Probable	Death Unlikely	Certain to Survive
In-patient psychiatric care (131)	40%	23%	22%	23%
Out-patient psychiatric care (190)	30%	45%	40%	39%
No further psychiatric care (179)	30%	32%	38%	38%

$x^2 = 12.05$ 6 degrees of freedom $P > 0.05$

Discussion

I have throughout used the wording "self-poisoning" rather than "attempted suicide", for I consider the latter term to be both clinically inappropriate, and misleading. It is true that in the popular mind deliberate self-poisoning is linked, linked indeed romantically, with the idea of suicide. It is true that some of our patients had done all they could to encompass their deaths; that minority can be said to have failed at suicide. But for four-fifths of the patients the concept of attempting suicide is wide of the mark. They performed their acts in the belief that they were comparatively safe — aware, even in the heat of the moment, that they would survive their overdosage and be able to disclose what they had done in good time to ensure their rescue. What they were attempting was not suicide. Moreover, what they were attempting they commonly achieved. To that end the simulation of death, consciously or not, the hint of suicide, heightened its effectiveness. But the act was not attempted suicide. Doctors do not have to be deceived by their simulation; the drama was enacted for their own circle only.

If the term "attempted suicide" were just meaningless it could be tolerated, but it is positively wrong, and should be discarded. The motives of our patients clearly proclaim this. In the first place the majority of acts were impulsive. Then, too, they were stupid and senseless, and the patients themselves acknowledge this. Not thus does a man drive himself to suicide. Also they demonstrated some purposefulness; but this purpose was to alter their life situation, not to die.

These patients were not attempting suicide. That term leads to errors of judgment. The chief of these is to measure the need for psychiatric treatment by the yardstick of the physical state of the patient. If he has taken only a small quantity of drugs then he was not really attempting suicide, so the argument time and again runs, he was just making a suicidal gesture which need not be taken seriously. Whether or not the patient receives psychiatric help must not depend upon whether the doctor in the out-patient department thinks the patient is *physically* ill enough to need admission. This doctor will be more impressed by the dozen tablets that the patient has taken than by the threescore that he was prevented from swallowing. The extent of physical damage is no criterion either of the seriousness of psychiatric illness or of the need for psychiatric care. The index of endangering life — our measure of the seriousness of the act — is not correlated with the need for psychiatric treatment.

Mistakes occur and result in many tragedies because doctors cling to the notion of attempted suicide. Attempted suicide is not a diagnosis. It is not even a description of behaviour. It is an interpretation of the motives for the act of self-poisoning — an unnecessary and usually a wrong interpretation. The alternative is simple. Everybody who has poisoned himself warrants psychiatric examination.

The fashion of self-poisoning will almost certainly be with us and continue to grow for years to come. We cannot afford to miss the point of it by calling it something else.

Conclusion

Deliberate self-poisoning is becoming more and more common and a matter of public health concern. Its management, other than resuscitation, is best achieved by psychiatric methods. The means of self-poisoning are usually provided by physicians, and it is as a general medical problem that the poisoned patient first presents.

I have attempted to illuminate each of these aspects by a clinical and epidemiological study of one year's cases in Edinburgh. This has led to an explanation of the recent rapid rise in incidence and to suggestions for prevention and for management. An understanding of all aspects is necessary to the proper appreciation, both of individual patients and collectively, of an important medical problem.

REFERENCES

BROOKE, E. M. and GLATT, M. M. (1964). Med. Sci. Law, 4, 277.
STENGEL, E. and COOK, N. G. (1958). Attempted Suicide. Oxford University Press, London.